REMARKS

Initially, in the Office Action dated February 17, 2005, the Examiner objects to the title as not being descriptive. Claim 5 has been rejected under 35 U.S.C. §112, second paragraph. Claims 1 and 2 have been rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,779,031 (Picher-Dempsey). Claims 3-6 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Picher-Dempsey in view of RFC 2205, IETF Network Working Group, September 1997, "Resource ReSerVation Protocol (RSVP), (Braden et al.) and further in view of On Multipoint Control Units for Videoconferencing, IEEE, 1994 (Willebeek-LeMair et al.). Claim 7 has been rejected under 35 U.S.C. §103(a) as being unpatentable over Picher-Dempsey in view of Issues and Trends in Router Design, IEEE, 1998 (Keshav et al.) and further in view of Programmable Transport Architecture with QoS Guarantees, IEEE, 1998 (Huard et al.).

By the present response, Applicants have submitted new claims 8-17 for consideration by the Examiner and submit that these claims do not contain any prohibited new matter. Further, Applicants have canceled claims 3, 4 and 7 without disclaimer. Moreover, Applicants have amended claims 1, 5 and 6 to further clarify the invention. Claims 1, 2, 5, 6, and 8-17 remain pending in the present application.

Specification Objections

The Examiner has objected to the title of the invention as not being descriptive and required a new title. Applicants have provided a new title of the

invention to satisfy the Examiner's request and respectfully request that this objection be withdrawn.

35 U.S.C. §112 Rejections

Claim 5 has been rejected under 35 U.S.C. §112, second paragraph. Applicants have amended this claim to further clarify the invention and respectfully request that this rejection be withdrawn.

35 U.S.C. §102 Rejections

Claims 1 and 2 have been rejected under 35 U.S.C. §102(e) as being anticipated by Picher-Dempsey. Applicants respectfully traverse these rejections.

Picher-Dempsey discloses in a wide area network arrangement composed of a number of secure local networks and an Internet service provider backbone having an ISP quality of service (QoS) module and an Event Server. LAN hosts indirectly access network router to monitor a communication session. The QoS module and the Event Server work together to identify and collect session startup/teardown and to collect certain network router state data. The state data is stored as a Management Information Base (MIB) object that can be accessed by the ISP using ordinary Simple Network Management Protocol messaging.

Regarding claim 1 and new claim 9, Applicants submit that Picher-Dempsey does not disclose or suggest the limitations in the combination of each of these claims of, inter alia, a network system connected with a plurality of network domains each domain including where a network management system operates to determine if a network resource exists in another network domain corresponding to the network

request for setting the communication path and, if yes, arbitrate the network domain where the end system is located with another network domain, set the communication path in which the communication quality is guaranteed over both the network domains, or wherein if the request for setting a QoS-guaranteed communication path indicates reservation of a network resource between said network domains, said network management system operates to break the network resource request into a set of network resource elements corresponding to the respective communication nodes with reference to a path control table received from said communication node into a set of network resource elements, convert said request into a set of request for reserving each network resource element, enter the reserving information of the corresponding network resource element for each converted reserving request, and determine if said network resource element can be reserved on the basis of the qualification information of a request source having issued said reserving request and network resource allocating information, or wherein the request processing performed with respect to the communication node is performed by the control server through the control network, or a resource reserving means that obtains a network resource corresponding to the request for network resource within each one of the network domains based on the user-information database, the policy database and the in-domain network component information and network resource information or a domain border determining means issuing the request for network resource to the inter-organization arbitrating means when the requested network resource is a network resource on the line between the

each one of the network domains and the another of the network domains or a network resource belonging to the another of the network domains, or

the inter-organization arbitrating means negotiating with another inter-organization arbitrating means provided in another control server within the another of the network domains to obtain a network resource corresponding to the request for network resource. The Examiner (in the §103 rejections) asserts that Applicants claimed limitation of a network management system operating to break the network resource request into a set of network resource elements is disclosed in Picher-Dempsey at col. 4, lines 39-52 and in Braden et al., pages 31-33, 35 and 36.

Braden et al. discloses a functional specification for the resource reservation protocol (RSVP) designed for an integrated services Internet. The RSVP protocol is used by a host to request specific qualities of service from the network for particular application data streams or flows. RSVP is also used by routers to deliver quality-of-service (QoS) requests to all nodes along the path(s) of the flows and to establish and maintain state to provide the requested service. RSVP requests will generally result in resources being reserved in each node along the data path.

However, the cited portions of Picher-Dempsey merely disclose that the database module provides an essential back end to IP/QoS module 120 where the session setup server uses the database module to provide relevant information regarding the user, and that the database module is first accessed when the user desires to verify the user name, password, etc. and then again when the user submits a QoS request. Further, the cited portions of Braden et al. merely disclose

the various formats of the RSVP messages. However, this is not a network management system that operates to break the network resource request into a set of network resource elements corresponding to the respective communication nodes with reference to a path control table received from the communication node into a set of network resource elements, as recited in the claims of the present application. The cited references do not disclose or suggest anything related to a path control table received from the communication node or breaking the network resource request into resource elements corresponding to the respective communication node with reference to the path control table.

The Examiner contends that Picher-Dempsey suggests the concept of the domain. However, in Picher-Dempsey, the "domain name" (col. 4, line 45) is defined as an example of the user information and is clearly introduced as a concept used for classifying the user since it is described in parallel to or together with "username", "password" and "user level". The "domain name" of Picher-Dempsey is not the same concept as "the network domain", as recited in the claims of the present invention. The "domain name" in Picher-Dempsey is merely an attribute of the user. A "network domain" as recited in the claims of the present application, includes several elements such as, e.g., servers, communication nodes, control network, etc. (see, Fig. 1), and is not an attribute of the user. Further, Picher-Dempsey does not disclose or suggest plural network domains, as recited in the claims of the present application.

Moreover, the Examiner asserts that the description "to break the network resource request received from said communication node into a set of network resource elements, convert said request into a set of request for reserving each network resource element," is based on the assumption of the policy control described in Braden et al. However, in Braden et al., the policy data exists as an independent module within each of the routers (see page 5, Fig. 1) and there is no disclosure as to how the policy data is shared among the plural routers and also as to how the policy data is prepared.

In addition, none of the cited references disclose or suggest a resource reserving means that obtains a network resource corresponding to the request for network resource within each one of the network domains based on the user-information database, or a domain border determining means issuing the request for network resource to the inter-organization arbitrating means when the requested network resource is a network resource on the line between the each one of the network domains and the another of the network domains or a network resource belonging to the another of the network domains, or the inter-organization arbitrating means negotiating with another inter-organization arbitrating means provided in another control server within the another of the network domains to obtain a network resource corresponding to the request for network resource.

According to the present invention, negotiating occurs among the plural network domains (10 of Fig. 1) so as to guarantee the communication quality over the plural network domains (see, the reserved system border arbitrating function

5354 of Fig. 32). According to this feature, the negotiation is performed among the plural network domains (10) each managing independently thereby to provide the desired communication quality (QoS) among the end points. These features are not disclosed or suggested by the cited references. In each of Braden et al. and Picher-Dempsey, since it is not assumed that it is independently determined whether or not the desired QoS can be secured at the respective paths, there arises a problem that it is impossible to uniformly determine as to the condition of the resource allocation defined on the network domain unit basis.

According to Braden et al., the policy of the resource allocation may differ at each of the respective administrative domains on the Internet (see, e.g., page 28, lines 4 and 5 of Braden et al.). In contrast, according to the present invention, since the control network is provided as an independent path (i.e., Applicants' claimed "wherein the request processing performed with respect to the communication node is performed by the control server through the control network"), the information of the path used for the communication is collected before starting the communication (the process (1) of the symbol 91 in Fig. 32), then the selection of the communication path capable of guaranteeing the communication quality is performed over the plural network domains (the processors (3) to (5) of the symbol 91 in Fig. 32), and the resource reservation is performed over the all paths (the processors (6) to (8) of the symbol 91 in Fig. 32).

Moreover, each of the cited references considers as to how control information is to be aggregated on the network used for the data communication. As

a result, as represented by Braden et al., each of the cited references employs a method in which the request for "the resource reservation" is distributed by the communication method employing the processes similar to the data communication thereby to make the router itself understand by the header information of a packet as the instruction for the router. Thus, according to the methods of Picher-Dempsey and Braden et al., there arises a problem that it can not be confirmed as to whether the required QoS for the communication path can be secured or not until the first communication data reaches the target host. According to Braden et al. (see page 4, lines 21-23), the RSVP does not define the route control and the route information is obtained from the local database included in the respective nodes. The route information is defined in the region of the routing protocol. Even in the case where the required QoS can be secured when a particular route is selected, there arises a case where such a route can not be selected since none of Picher-Dempsey and Braden et al. can define the relation between the RSVP and the routing protocol.

In contrast, according to the present invention, the control server 12 operates the path control table 13343 within the transfer control unit 1334 within the transfer processing unit 133 through the communication path 15 thereby to designate the next hop IP address 133433. Accordingly, the present invention is able to secure the path guaranteeing the QoS even in the case where the communication path guaranteeing QoS can not be secured. These features are not disclosed or suggested by the combination of Picher-Dempsey and Braden et al.

Regarding claim 2 and new claims 8 and 10-17, Applicants submit that this claim is dependent on independent claim 1 and, therefore, is patentable at least for the reasons noted previously regarding this independent claim. For example, none of the cited references disclose or suggest where the network management system having received the communication request in which the communication quality is guaranteed to be another network domain by the communication node operates to determine if a network resource exists in the another network domain in response to the communication request, based on the qualification information of a request source having issued the communication request and a network resource allocating policy or where the request for setting a QoS-guaranteed communication path is a network resource prompt request, and where the resource reserving means and the inter-organization arbitrating means of the each one of the network domain reserves or promptly obtains a network resource corresponding to the request for network resource in accordance with the network resource reserving request or the network resource prompt request. As noted previously, Picher-Dempsey merely relates to the closed control within the single network domain. Picher-Dempsey does not disclose or suggest or relate to the method of the QoS guarantee among the plurality of network domains and the system of the resource reservation, as recited in the claims of the present application.

Accordingly, Applicants submit that none of the cited references, taken alone or in any proper combination, disclose, suggest or render obvious the limitations in the combination of each of claims 1, 2 and new claims 8-17 of the present

application. Applicants respectfully request that these rejections be withdrawn and that these claims be allowed.

35 U.S.C. §103 Rejections

Claims 3-6 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Picher-Dempsey in view of Braden et al. and Willebeek-LeMair et al. Applicants have canceled claims 3 and 4, therefore, rendering these rejections moot. Applicants respectfully traverse these rejections as to the remaining pending claim.

Willebeek-LeMair et al. discloses multipoint control units for videoconferencing where the issues involved in the design of conference servers that support multiparty, multimedia conferences are examined. These servers, called multipoint control units (MCUs) in the telephony world, coordinate the distribution of audio, video, and data streams amongst the multiple participants in a videoconference. The MCU is responsible for the processing of video and audio so that a conference participant can hear and see one or more of the other participants in the conference. It is also responsible for handling and forwarding the data streams from the participants. Different approaches are presented regarding the design of an MCU to implement these functions.

Regarding claims 5 and 6, Applicants submit that these claims are dependent on independent claim 1 and, therefore, are patentable at least for the same reasons noted previously regarding this independent claim. Applicants submit that Willebeek-LeMair et al. does not overcome the substantial defects noted previously regarding

Picher-Dempsey and Braden et al. For example, Applicants submit that none of the cited references disclose or suggest where the determination as to whether or not the reservation is enabled is carried out by the determining if a requested bandwidth can be secured in a required timing as to one line leading from requested communication node to the next communication node on the communication path, or where the reserving request is composed of two types of requests, the request for reservedly setting a communication path in which the communication quality is guaranteed and the other request for promptly setting the communication path.

Accordingly, Applicants submit that none of the cited references, taken alone or in any proper combination, disclose, suggest or render obvious the limitations in the combination of each of claims 5 and 6 of the present application. Applicants respectfully request that these rejections be withdrawn and that these claims be allowed.

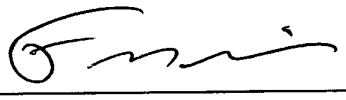
Claim 7 has been rejected under 35 U.S.C. §103(a) as being unpatentable over Picher-Dempsey, in view of Keshav et al., and further in view of Huard et al. Applicants have canceled this claim therefore rendering this rejection moot.

In view of the foregoing amendments and remarks, Applicants submit that claims 1, 2, 5, 6 and 8-17 are now in condition for allowance. Accordingly, early allowance of such claims is respectfully requested.

To the extent necessary, Applicants petition for an extension of time under 37 CFR 1.136. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, or credit any overpayment of fees, to the deposit account of Mattingly, Stanger, Malur & Brundidge, P.C., Deposit Account No. 50-1417 (referencing attorney docket no. 500.40548X00).

Respectfully submitted,

MATTINGLY, STANGER, MALUR & BRUNDIDGE, P.C.



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